NASA'S MISSION TO PLANET EARTH

EARTH PROBES

DATA INFORMATION SYSTEM

EOS

EARTH OBSERVING SYSTEM

Special Topic: Ancillary Data PreProcessing

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PDPS Roadmap

Special Topic: Production Rules

1. Capture PGE Profile at **SSI&T**
2. Describe Production Goals through **Production Requests**
3. Accept **On-demand** Production Requests
4. Accept Resource Reservations and Create **Resource Plans**
5. Planning Production Controls - Create and Activate **Production Plans**
6. Coordinate Production from Data Arrival with **Subscription** Notifications
7. Handle L0 **Data Preparation**

   Special Topic: Subsetting

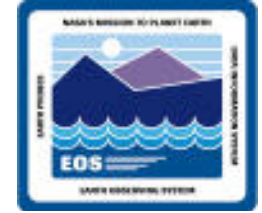8. Realtime **Production** Controls and PGE Execution Monitoring

   Special Topic: PGE Error Handling

9. **Quality Assurance** Check Output Products

   Special Topic: PDPS Database

Special Topic: Ancillary Data PreProcessing

Background
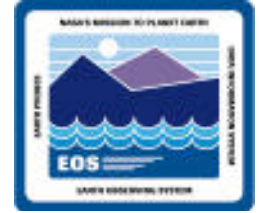
To reformat commonly used science ancillary data sets into the standard ECS data format for higher level services

Both native format and preprocessed format are archived
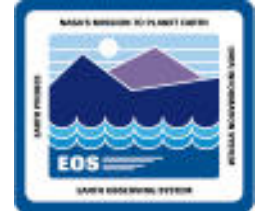
Three ancillary data sets will be provided for Release A

- **NMC GRIB**
    - **final analysis**
    - **medium range forecast**
    - **eta analysis**
- **NESDIS Snow Ice Product in EDR Mastermap format**
- **TOMS level-3**

Approach

- **Provide functionality within INGEST, with a one-time reformatting of data into HDF-EOS.**

- **Re-use of heritage code supplied by NMC for decoding GRIB format files.**

- **Maintain all scientific metadata and required data.**

- **Use Toolkit and HDF-EOS libraries to write data to a file.**

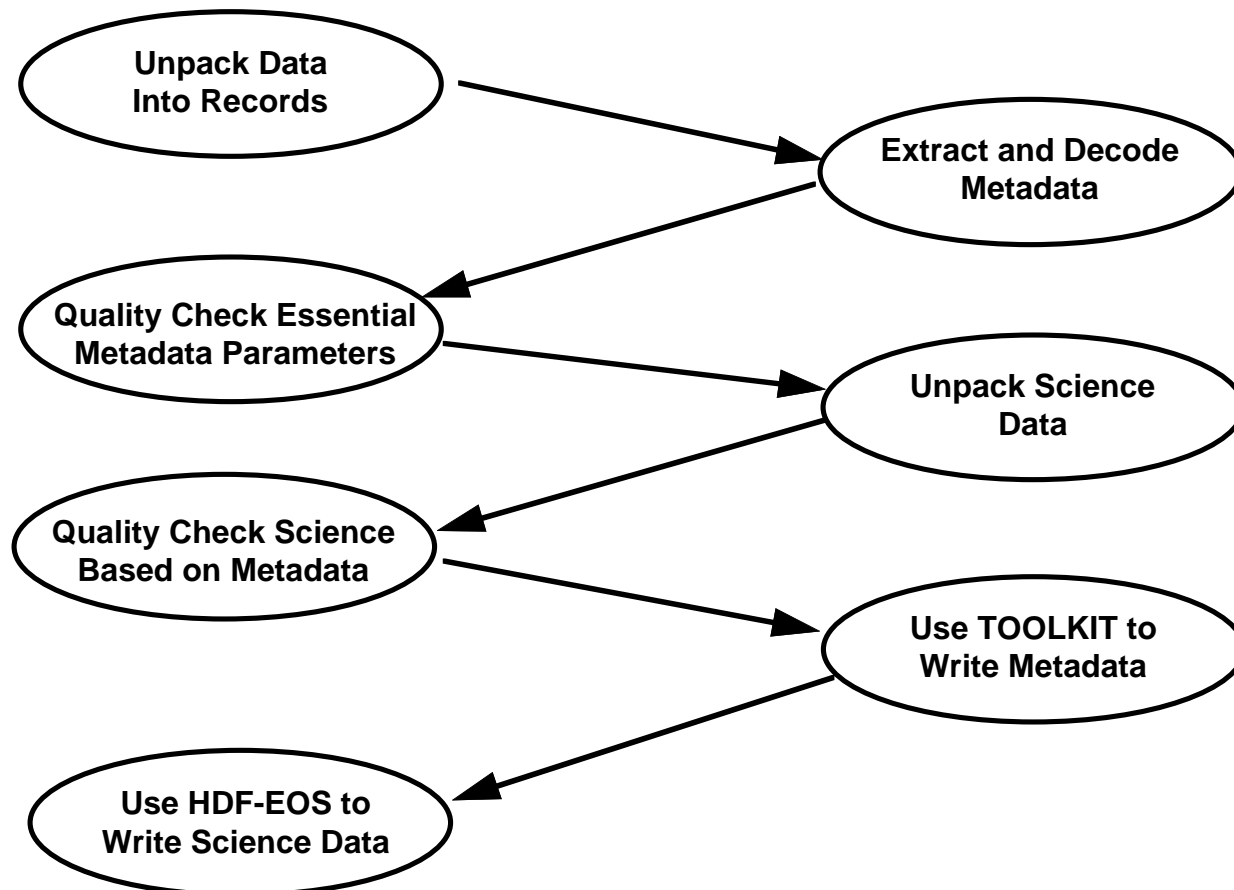- **Flexible approach to accept any file in supported format.**

Design Drivers

General Functional Description

- **Create design which is extensible and re-usable for additional common ancillary data sets.**

- **Maintain all scientific metadata values, and support INGEST metadata extraction.**

High Level Explanation

Unpack Data
Into Records

Extract and Decode
Metadata

Quality Check Essential
Metadata Parameters

Unpack Science
Data

Quality Check Science
Based on Metadata

Use TOOLKIT to
Write Metadata

Use HDF-EOS to
Write Science Data

Ancillary Data Pre-Processing

- **Object Model:**   170-TP-001-001
                        170-TP-002-001

- **Event Traces:**   305-CD-025-002 4.4.10

- **Data Formats:**   170-TP-001-001
                        170-TP-002-001

Ancillary Data Sets Supported at Release B

Currently Supported:

- **NMC GRIB Data Sets**
- **NESDIS Snow/Ice Product**
- **TOMS Level-3**

Additional Candidate Data Sets:

- **NOAA/NCEP SST**
- **EDC Landcover**
- **SSM/I Brightness Temperatures**

Summary

- **Conversion of NMC GRIB, NESDIS Snow/Ice and TOMS level-3 data sets to HDF-EOS.**

- **Lessons learned from Release A can be incorporated into Release B preprocessing.**

- **System engineering requirements have been developed and can be used in Release B, only need to modify code to support preprocessing of additional data sets.**